

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
29 March 2001 (29.03.2001)

PCT

(10) International Publication Number  
**WO 01/21650 A3**(51) International Patent Classification<sup>7</sup>: **C12N 15/54**,  
9/10, 15/82, C12Q 1/68(21) International Application Number: **PCT/US00/25856**

(22) International Filing Date:

21 September 2000 (21.09.2000)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/155,046 21 September 1999 (21.09.1999) **US**(71) Applicant (for all designated States except US): **E.I. DU PONT DE NEMOURS AND COMPANY [US/US]**; 1007 Market Street, Wilmington, DE 19898 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **COLDREN, Chris [US/US]**; 56-270 77 Massachusetts Avenue, Cambridge,MA 02137 (US). **FLINT, Dennis [US/US]**; 31 Tenby Chase Drive, Newark, DE 19711 (US). **HALLAHAN, David, L. [IE/US]**; 5117 New Kent Road, Wilmington, DE 19808 (US). **WANG, Hong [US/US]**; 605 Kazio Court, Kennett Square, PA 19348 (US).(74) Agent: **FELTHAM, S., Neil**; E.I. Du Pont de Nemours and Company, Legal Patent Records Center, 1007 Market Street, Wilmington, DE 19898 (US).(81) Designated States (national): **AU, BR, CA, ID, IN, KR, US**.

(84) Designated States (regional): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published:

— with international search report

(88) Date of publication of the international search report:

13 December 2001

[Continued on next page]

(54) Title: **CIS-PRENYLTRANSFERASES FROM PLANTS**

1 50

M.lutUPPS (SEQ ID NO:24) (1) -----MKMPSIIQIQFVALKRLLVETKEQCMCF

Yeaststr1 (SEQ ID NO:28) (1) -----METDSGIP

Yeastrer2 (SEQ ID NO:26) (1) -----CYFPASLSTNHRGLYVF

dms2c.pk005.c7 (SEQ ID NO:2) (1) -----MELYNG

ecs1c.pk009.p19 (SEQ ID NO:4) (1) -----MELYNG

ehb2c.pk001.i10 (SEQ ID NO:6) (1) -----MEITYG

ehb2c.pk001.d17 (SEQ ID NO:8) (1) -----MLSFRRPISADNARHTFKSKHSSCTFRSNRIDSFSFPPISVPRFKLRTA

ehb2c.pk001.o18 (SEQ ID NO:10) (1) -----MLGSLMSYLPVSDSKTENTDEL

vdb1c.pk001.k23 (SEQ ID NO:12) (1) -----MFSLRPLPIPLVKTTPSPSCYSHYHYRYRYRCHYPPFHRSTQSLIVSK

r10n.pk117.i23 (SEQ ID NO:14) (1) -----MPLSN

rr1.pk0050.h8 (SEQ ID NO:16) (1) -----

s11.pk0128.h7 (SEQ ID NO:18) (1) -----

wdk5c.pk005.f22 (SEQ ID NO:20) (1) -----

51 100

M.lutUPPS (SEQ ID NO:24) (1) -----MPPIKKRKAIKNNN-----INAAQI

Yeaststr1 (SEQ ID NO:28) (28) AVKSI FORVFAVMHSLSLFSWFFYNLQNILKAIRVGPV

Yeastrer2 (SEQ ID NO:26) (9) GHSEFLKWTKNIFSRTL-----ASNCV

dms2c.pk005.c7 (SEQ ID NO:2) (31) NQSDTTGGGINSLEERIT-----PAGEKHELM

ecs1c.pk009.p19 (SEQ ID NO:4) (1) -----MKK

ehb2c.pk001.i10 (SEQ ID NO:6) (7) ERPSFRLGKYMRKGLY-----SITOGPI

ehb2c.pk001.d17 (SEQ ID NO:8) (7) ERPSFRLLEKYMRKGLY-----SITOGPI

ehb2c.pk001.o18 (SEQ ID NO:10) (7) QRPSEFRIFGKYMRKGLY-----SITOGPI

vdb1c.pk001.k23 (SEQ ID NO:12) (51) KTDVGEEREAREVNERAEF-----PDGARELM

r10n.pk117.i23 (SEQ ID NO:14) (1) -----MKK

rr1.pk0050.h8 (SEQ ID NO:16) (23) IATGLASLQNFIRKCI-----AVSYGPM

s11.pk0128.h7 (SEQ ID NO:18) (51) RGSALAKCHADSVTLRDDGVSLAQESLEPLPAEAAEMMK

wdk5c.pk005.f22 (SEQ ID NO:20) (6) STSSPAVTVPAAEELS-----QGARESL

101 150

M.lutUPPS (SEQ ID NO:24) (32) GMMKMKRIKHYEMQTVKKITRYASDLRYLL

(57) Abstract: This invention pertains to nucleic acid fragments encoding plant proteins that are homologs to the *cis*-prenyltransferases UPP synthase from the bacterium *Micrococcus luteus* or Dedol-PP synthase from yeast *Saccharomyces cerevisiae*. More specifically, this invention pertains to *cis*-prenyltransferase homologs from wheat, grape, soybean, rice, African daisy, rubber tree latex and pot marigold.

WO 01/21650 A3



---

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*